



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## CSCOR Coral Data, CoRIS and the NODC Archive

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# **NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)**



## **Overview**

### **Part 1 - What is CoRIS?**

- NOAA vision for coral data and information**
- How CoRIS works**
  - Within the Coral Reef Conservation Program**
  - Operationally**



# **NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)**



## **Overview (Continued)**

### **Part 2 - CSCOR Coral Data, CoRIS and NODC**

- The CRCP project database**
- Procedures for adding data and publications to CoRIS and NODC**
- What to provide and when to provide it**



# NOAA Coral Reef Information System (CoRIS)



## NOAA Vision and Goals for Coral Data

- Provide a **single point of discovery** for NOAA data and information of direct relevance to the management and preservation of the nation's coral reefs.
- Meet **information needs of NOAA managers** in the preparation of biennial assessments on the status and trends in US coral reef ecosystem conditions.
- Support NOAA's contribution to the **US. Coral Reef Task Force National Action Plan**.
- **Cross-cutting team**, using the best of NOAA coral reef efforts, to develop and populate the system.
- **User / constituent requirements driven** system.



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## How CoRIS Works within the CRCP

- Editorial Board provides oversight and guidance
  - B. Moore, E. Bayler, G. Mayer, D. Kennedy, R. Griffis (chair)
- Coral Reef Conservation Program staff participate in CoRIS Team meetings
- Participate in bi-weekly Coral Coordination meetings
- Coral projects database provides information about planned data products and contacts



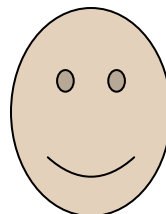
# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## How CoRIS Works – Access to Online Data

The repository of metadata files is searchable by remote users.

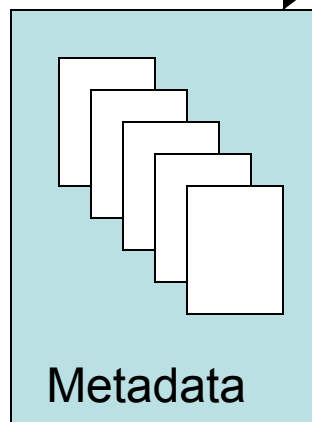
“Find corals ...”



View  
or  
download

select

Search results



Metadata

coris.noaa.gov

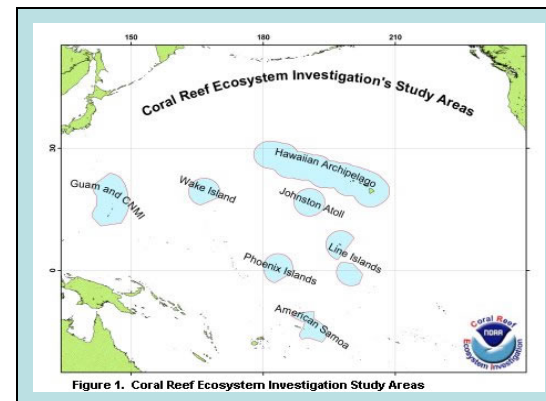
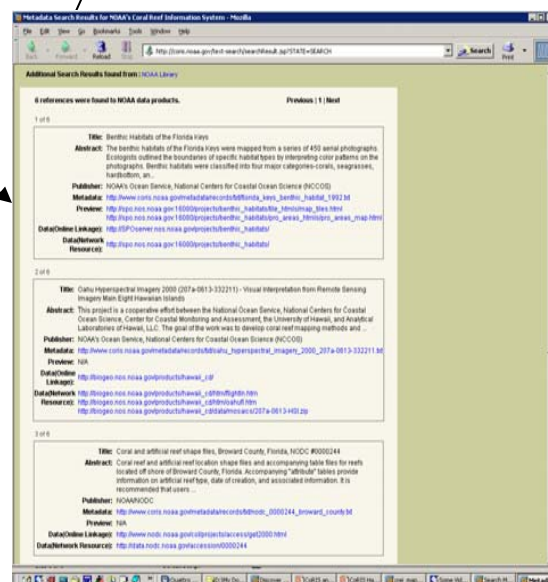
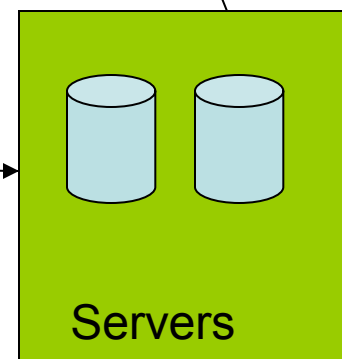


Figure 1. Coral Reef Ecosystem Investigation Study Areas



Servers

Served by source office  
or NOAA data archive



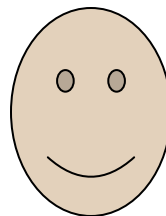
# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## Access to Offline Data

Contact information is  
provided for offline  
access to data

"Find corals ..."



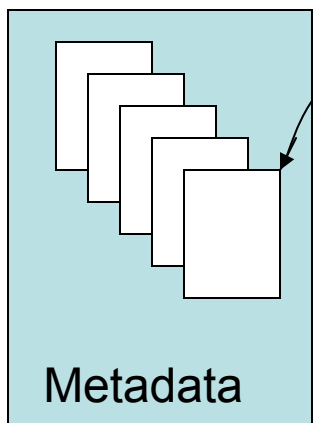
Send data or report

Contact the source

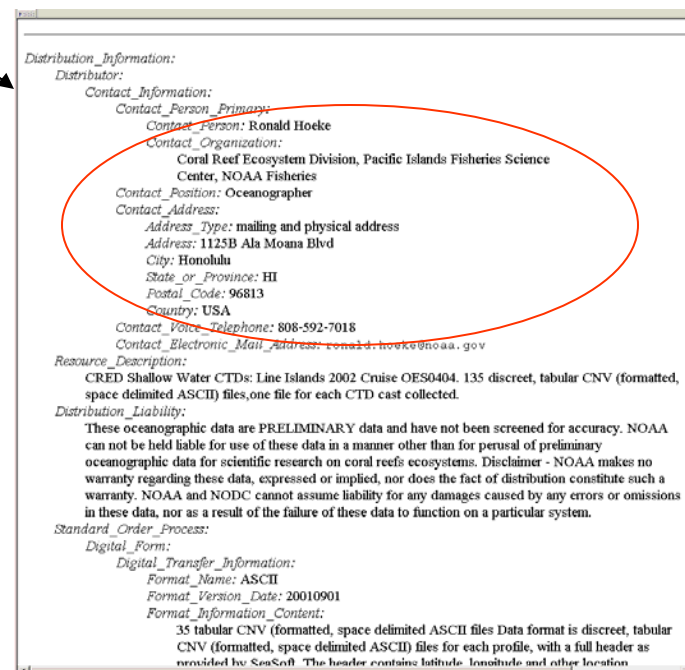
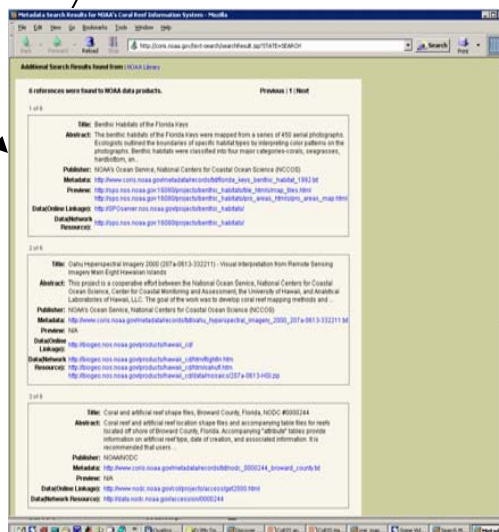


View metadata

Results



Metadata  
coris.noaa.gov







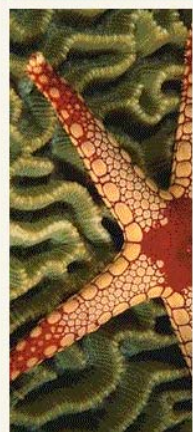
# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## CoRIS Web Site



NOAA's Coral Reef Information System (CoRIS) is designed to be a single point of access to NOAA coral reef information and data products, especially those derived from NOAA's Coral Reef Initiative Program.



DISCOVER NOAA's DATA

ABOUT CORAL REEFS

PROFESSIONAL EXCHANGES

THE LIBRARY

NOAA's CORAL REEF ACTIVITIES

GLOSSARY

### Special Note

- ▶ Learn about the activities of the [U.S. Coral Reef Task Force](#).
- ▶ View the newly available [National Coral Reef Action Strategy](#).
- ▶ Read the report on the [State of U.S. Coral Reefs](#).
- ▶ Read the report on the [Status of Coral Reefs of the World](#).
- ▶ See [About Coral Reefs](#) to read a new essay on [deep water corals](#).
- ▶ Visit the updated [Coral Reef Glossary](#) with more than 500 new terms and 200 new images.
- ▶ Search by taxonomic name--a new search feature in the [Text Search](#)--in [Discover NOAA's Data](#).

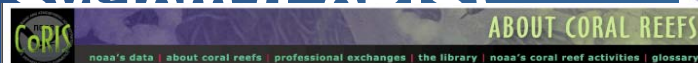
Browse the Library for NOAA coral reef [publications](#) and [Web sites](#).

- ▶ Take the [User Survey](#).

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Coral reefs are complex, biologically diverse ecosystems. Countless studies, books and papers have been devoted to exploring and understanding the nature of these unique marine environments. These four essays discuss some of the most important aspects of coral reefs. Many of their physical and biological characteristics are discussed in detail. Coral reef threats, both natural and anthropogenic, also are explored.

*These essays are not meant to be exhaustive. For more information, the reader can refer to the literature cited at the end of each essay.*

### What are Coral Reefs

This essay is a general description of the individual coral animal. It provides an anatomical overview and notes unique cellular characteristics of these organisms. Major structural forms are discussed, as well as the range of environmental conditions necessary for reef survival. Geographic distribution and diversity of major reefs in the Pacific and Atlantic oceans is discussed, as well as the Darwinian theory of atoll formation. The major biogeographic zones of typical reef systems are described.

### Coral Reef Biology

Almost all reef building corals are sessile organisms, meaning they spend their entire adult lives fixed to the same spot on the sea floor. Over time stony corals have

**acolonial coral** - a solitary coral that does not form a colony

**aconitum** - a thread-like part of a coral polyp's or anemone's digestive system and employed as defensive or aggressive structures when extruded

**acquired character** - a non-inherited character, of function or structure, developed in an organism as a result of environmental influences during the individual's life

**Acropora** - a genus of hard (stony) corals that contain the elkhorn and staghorn corals



Staghorn coral (*Acropora* sp.).

**acrorhagus** - a sac, covered with nematocysts, that protrudes from below the sweeper tentacles or on the column of certain anthozoans

**Actinopterygii** - a class of bony fishes comprising the ray-finned fishes, which make up about half of all vertebrate species known. They are found in most aquatic habitats from the abyssal depths of the ocean, greater than 10,000 m, to high altitude freshwater streams and ponds; a few species can even move about on land for short periods of time. Ray-finned fishes constitute a major human food source



This squirrel fish is a member of the class Actinopterygii, the ray-finned fishes. Note the hard and soft rays in its fins.

**action potential** - the stimulus-triggered change in the membrane potential of an excitable cell, such as a neuron, caused by selective openings and closings of ion channels

**active site** - a specific region of an enzyme where a

### Main Page

[What are Coral Reefs](#)

[Coral Reef Biology](#)

[Deep Water Corals](#)

[Major Reef-building Coral Diseases](#)

[Hazards to Coral Reefs](#)





# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## Part 2 - CSCOR, CoRIS and NODC

1. NODC (the National Oceanographic Data Center) is the designated national archive for ocean data.
2. CoRIS is a project of the CRCP. It serves NOAA and the CRCP, and is housed in NODC.
3. The CoRIS mission is to provide access to NOAA coral data and information, and to archive coral data.
4. Any coral-related data provided to CoRIS is archived at NODC; publications are supplied to the NOAA Library.
5. Data documentation (metadata) are needed by CoRIS to provide access to data, and to archive data.
6. CoRIS is asked to report to the CRCP whether or not planned products are available.



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## Tracking Products – CRCP Project Plan

### Sample CRCP Project Product description

NOAA Coral Reef Conservation Program - Internal

FY 2004

1417

Caribbean Reef Fish Ecology Studies

#### PRODUCTS AND OUTCOMES

Significant outcomes, products, and services that will be completed during the proposed fiscal year:

Product or outcome name: Monitoring Data

Completion Date: 11/2004

Status:

Reason why product is not completed or on time:

Milestones:

Monitoring data will be collected during each of the 6 scheduled missions. These data will be made available for general consumption (including CoRIS) at our website ([http://blogo.nos.noaa.gov/products/data/reef\\_fish/](http://blogo.nos.noaa.gov/products/data/reef_fish/)) after QA/QC measures have been completed. This will take approximately 1 month for each mission. The following missions are scheduled for FY04: St. Croix/St. John, USVI - February 04 LaParguera, Puerto Rico - March 04 LaParguera, Puerto Rico - June 04 St. John, USVI - July 04 St. Croix, USVI October 04 LaParguera, Puerto Rico - November 04

CoRIS Product? Y

Date product will be provided to CoRIS: 12/2004

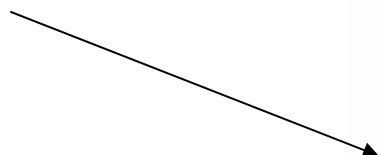
Types of products:

Publications  
Biological Monitoring or Sampling Data

Describe what will be provided to CoRIS:

Web hosting for data query:  
See [http://blogo.nos.noaa.gov/products/data/reef\\_fish/](http://blogo.nos.noaa.gov/products/data/reef_fish/)

Planned Date



March 2005



# NOAA Coral Reef Conservation Program

## Coral Reef Information System (CoRIS)



### Tracking Products - CRCP Project Data Base Report

	A	B	C	D	E	F	G	H	I	J	K	
1	Project ID	Product Name	Project Name	FISCAL YEAR	PI	NOAA Office	Est Month of Completion	Est Year of Completion	Est Month Delivered to CoRIS	Est Year Delivered to CoRIS	Product Status	Status Explain
2	1151	Technical reports and formal publications.	Hawaii Coral Reef Initiative Research Program	2004	Michael Dowgiallo	National Centers for Coastal Ocean Science - NCCOS						
3	1184	Peer- Reviewed publication entitled: Highly polymorphic microsatellite markers for the Caribbean hard coral <i>Acropora palmata</i>	Assessment of Candidate Corals	2004	Margaret Miller	Southeast Fisheries Science Center - SEFSC	5	2004	5	2004		
4	1184	Peer- Reviewed publication: Ecology of a coral disease outbreak: Predators as vectors in Caribbean acroporids	Assessment of Candidate Corals	2004	Margaret Miller	Southeast Fisheries Science Center - SEFSC	3	2004	10	2004		
5	1184	Peer- Reviewed publication: Sources of mortality affecting <i>Acropora</i> spp. populations in the Florida Keys (USA)	Assessment of Candidate Corals	2004	Margaret Miller	Southeast Fisheries Science Center - SEFSC	7	2004	10	2004		
6	1206	Workshop: Emerging Issues in Coral Health and Disease for the Indo-Pacific	Coral Disease and Health Consortium	2004	Cheryl Woodley	National Centers for Coastal Ocean Science - NCCOS	3	2005	4	2005	Delayed	This product is committee has date was choi
7	1206	Ecotoxicology Workshop	Coral Disease and Health Consortium	2004	Cheryl Woodley	National Centers for Coastal Ocean Science - NCCOS	9	2005			On Time	
8	1206	Diagnostic tool development	Coral Disease and Health Consortium	2004	Cheryl Woodley	National Centers for Coastal Ocean Science - NCCOS	3	2005			On Time	Development o by March 2005 for publication.
9	1208	TBD after grant selection	Coral Reef Conservation Fund	2004	Roger Griffis	Office of Response and Restoration - ORR						
10	1253		Moderate-Deep water mapping and characterization of National Monuments, Parks, and selected USVI Territory Waters.	2004	Mark Monaco	National Centers for Coastal Ocean Science - NCCOS			9	2006	On Time	
11	1253	Conduct mission to collect hydrographic and benthic habitat data.	Moderate-Deep water mapping and characterization of National Monuments, Parks, and selected USVI Territory Waters.	2004	Mark Monaco	National Centers for Coastal Ocean Science - NCCOS	3	2004				
12	1253		Moderate-Deep water mapping and characterization of National Monuments, Parks, and selected USVI Territory Waters.	2004	Mark Monaco	National Centers for Coastal Ocean Science - NCCOS					On Time	
13	1256	On-the-job training for Guam's enforcement officers.	Improved Enforcement of Coral Reef Reserves	2004	Alan Everson	Pacific Islands Regional Office - PIRO	1	2005				
14	1256		Improved Enforcement of Coral Reef Reserves	2004	Alan Everson	Pacific Islands Regional Office - PIRO					On Time	

March 2005



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## Tracking Products – CoRIS Tracking Spreadsheet

	A	B	C	D	E	F
10	Jim Bohnsack	Florida Keys National Marine Sanctuary Monitoring	2002	N/A	<b>Citation:</b> Bohnsack, James, <b>New evidence that no-take marine reserves benefit fisheries</b> , Coastlines: Information about Estuaries and Near Coastal Waters, Iss. 12.2, UMASS Boston, April 2002, p.7.	
11	Jim Bohnsack	Reef Fish Recovery at Looe Key, FL	2003	1248	<b>Library has pub:</b> Resource survey of Looe Key National Marine Sanctuary 1983 [electronic resource] / James A. Bohnsack, Adriana Y. Cantillo, Maria J. Bello, editors.	
12	Jim Bohnsack	Reef Fish Recovery at Looe Key, FL	2002	N/A	<b>Citation:</b> Miller, M. W. , Bourque, A. S., Bohnsack, J. A., 2002. <b>An analysis of the loss of Acroporid corals at Looe Key, Florida, USA: 1983-2000.</b> Coral Reefs 21: 179-182	
13	Michael L. Burton	Biological Characterization of Riley's Hump and identification of snapper spawning areas	2002	N/A	<b>Pub and manuscript expected 2005</b>	
14	Andy David	Oculina Habitat Characterization, Restoration and Assessment and Multibeam mapping	2002	N/A	Received 2004: Oculina Banks GIS and dive narratives, images and bathymetry data. Provided by Andrew Shepard, NURC, UNCW.	
15	Andy David	Survey Habitat and Fish Assemblage in Two marine Reserves on West Florida Shelf - Manuscript from GCFT proceedings	2002	N/A	Pub sent via CD	
16	Andy David	Survey of habitat and fish assemblages in two Marine Reserves on the West Florida shelf	2003	1214	Pub sent via CD	
17	Anne Marie Eklund (Jennifer Schull)	Assessing the distribution and habitat requirements for deep-water groupers - Warsaw grouper, speckled hind and snowy grouper	2003	1240	<b>Working. Manuscript in review, Eklund on sabbatical, contacted Jen Schull</b>	
18	Anne Marie Eklund (Jennifer Schull)	Shallow-water grouper distribution and spawning behavior	2003	1239	<b>N/A, Eklund on sabbatical, contacted Jen Schull</b>	
19	Jonathan Hare	Assessing the potential of Oculina Banks Reserve to serve as a source of deepwater grouper larvae for other reef habitat in the southeastern US	2002	N/A	<b>Hare, J. 2002. Assessing the potential of Experimental Oculina Research Reserve to Serve as a Source of Deepwater Grouper Larvae for Other Inshore and Reef Habitats in the Southeastern US - Report to SEFSC and SAFMC, manuscript will be submitted to the Bulletin of Marine Sciences in 2003</b>	
20	Jonathan Hare	Developing Methods to Improve Coral Reef Fish Monitoring	2003	N/A	<b>N/A</b>	
21	John Lamkin	Abundance and diel migration of demersal mesozooplankton and small fishes and their trophic contribution to the reef ecosystems	2003	1228	<b>N/A - no pub? Data?</b>	



# **NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)**



## **Tracking Products – Summary**

- **CRCP Project descriptions include information about planned data products and publications.**
- **CoRIS uses that information to contact principal investigators about planned data products.**
- **CoRIS reports to the CRCP to identify those products that are available.**



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## ***Publications***

- Send publications or citations to Karen Taylor, either electronically or in hard-copy format:
  - [karen.taylor@noaa.gov](mailto:karen.taylor@noaa.gov)
  - NOAA Coral Reef Information System  
1315 East-West Highway, SSMC3 4<sup>th</sup> Floor E/OC3  
Silver Spring, MD 20910-3282
- Please include the appropriate project information:
  - CRCP project name and ID number
  - project title
  - authors
  - product status if no final product





# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## *Data Products*

Information that is needed about data and data products:

- Who, what, when, where, why
- How to access data (online, offline)
- Metadata reference information

Information about data and data products needed by CoRIS and NODC.



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## *Data Products*

- Send data and metadata, or information about data, to Harry Iredale:
  - [Harry.Iredale@noaa.gov](mailto:Harry.Iredale@noaa.gov)

NOAA Coral Reef Information System  
1315 East-West Highway, SSMC3 4th Floor E/OC3  
Silver Spring, MD 20910-3282

- Please include the appropriate project information:
  - CRCP project name and ID number
  - project title
  - product status if no final product



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



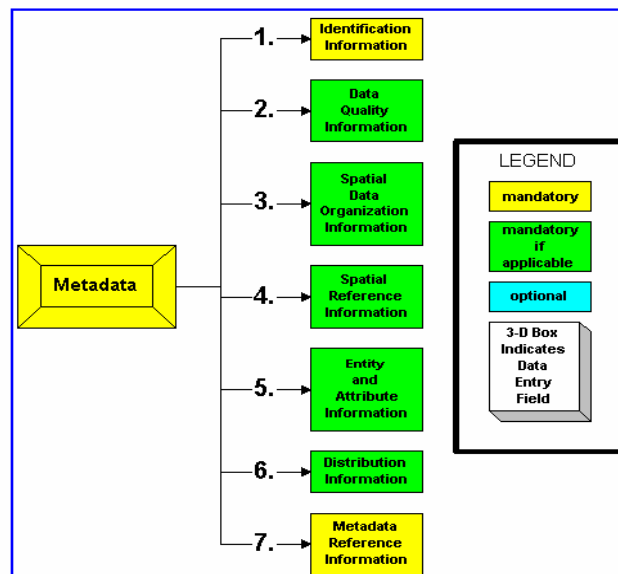
## A good FGDC Metadata Reference



### An Image Map of the Content Standard for Digital Geospatial Metadata Version 2 - 1998 (FGDC-STD-001 June 1998)

[Spanish version](#)

Click in this picture for more information on the [Federal Geographic Data Committee](#)'s "Content Standard for Digital Geospatial Metadata" Version 2 - 1998. (FGDC-STD-001 June 1998)



<http://biology.usgs.gov/fgdc.metadata/version2/>



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## Summary - Providing Data and Information

### (1) CRCP Projects

When: planned product date, plus time for funding delay

What: data, products, reports, publications that are identified in CRCP project plans

### (2) Other Projects

When: "...within one year of data collection" (NAO 216-101)

What: data

Other data, products, reports and publications that would be useful are welcomed by CoRIS any time.



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## Products to CoRIS, NOAA Library, and NODC

- Data and data products: send metadata to CoRIS
  - CoRIS provides access to data products and metadata
  - **DATE:** CRCP project product date
- Publication: send citation or copy to CoRIS
  - CoRIS sends citation and / or publication to NOAA Library
  - CoRIS provides access to the publication
  - **DATE:** CRCP project product date
- 'Archive' data set: send data and metadata to CoRIS
  - CoRIS stores data and metadata in the NODC Archive
  - CoRIS provides access to the data
  - **DATE:** CRCP project product date



# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## IMPORTANT DATES

### PROJECTED

- Planned product date in CRCP project plans

### EXPECTED

- Planned date plus # of months funding delay

### PROTECTED

- Data are safely secure in the Archive





# NOAA Coral Reef Conservation Program Coral Reef Information System (CoRIS)



## CoRIS Contacts

Parmesh Dwivedi, Project Manager

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Doug Hamilton, Operations Manager

(301) 713-3284 x102      [Doug.Hamilton@noaa.gov](mailto:Doug.Hamilton@noaa.gov)

Harry Iredale, Metadata

(301) 713-3284 x170      [Harry.Iredale@noaa.gov](mailto:Harry.Iredale@noaa.gov)

Karen Taylor, Publications

(301) 713-3284 x122      [Karen.Taylor@noaa.gov](mailto:Karen.Taylor@noaa.gov)